UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,700	08/28/2001	Toshiki Tanaka	826.1746	4440

21171 7590 10/23/2002

STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

EXAMINER
SOMMER, ANDREW R

ART UNIT	PAPER NUMBER
3663	

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

Office Action Summary	Application No.	Applicant(s)	
	09/939,700	TANAKA ET AL.	
	Examin r	Art Unit	
	Andrew R Sommer	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2001* .

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-16* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-3, drawn to Raman amplifier system with gain equalization filter, classified in class 359, subclass 337.1.

II. Claims 4-5, 11-13, 15 and 16, drawn to Raman amplifiers that detect the failure of a pump and compensate by adjusting adjacent pumps, classified in class 359, subclass 334.

III. Claims 6, 7, and 14 drawn to Raman amplifier that adjusts pump light when there is a change in transmission loss, classified in class 359, subclass 110.

IV. Claims 8-10, drawn to a Raman amplified transmission system wherein a plurality of pump multiplexers have a predetermined characteristic, classified in class 359, subclass 160.

The inventions are distinct, each from the other because of the following reasons:

The inventions of Group I and Group II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility from invention II such as equalizing the gain spectrum of a Raman amplifier, as well as compensating for SRS induced gain tilt. Group II compensates for gain deficiencies when a particular Raman pump has failed. The gain equalization filter

will not necessarily compensate for a failure in a pump light as there may be an absence of gain for the filter to equalize. Thus, the second invention calls for the adjustment of Raman pumping light, whereas the invention of Group I only needs a gain equalization filter to modify the transmission characteristics.

The inventions of Group I and Group III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the aforementioned invention I has separate utility from invention III such as providing gain flattening, whereas the invention of Group III attempts to maintain a constant output level by increasing the gain in the amplifier (rather than attempting to flatten the gain spectrum as the invention of Group I claims) to compensate for an increase in the transmission loss.

The inventions of Group I and Group IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the aforementioned invention I has separate utility from invention IV such as providing gain flattening, whereas the invention of Group IV utilizes the characteristics of a plurality of multiplexers, used to multiplex the plurality of pump lights to create a predetermined characteristic of the multiplexers. In Group IV there is no mention of gain equalization, as in Group I.

The inventions of Group II and Group III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct

from each other if they are shown to be separately usable. In the instant case, the aforementioned invention II has separate utility from invention III such as compensation for a failed pumping light, whereas the invention of Group III compensates for a change in the loss characteristic of a transmission line.

The inventions of Group II and Group IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the aforementioned invention II has separate utility from invention IV such as compensation for a failed pumping light, whereas the invention of Group IV utilizes the characteristics of a plurality of multiplexers, used to multiplex the plurality of pump lights to create a predetermined characteristic of the multiplexers. In Group IV there is no mention of changing the pump powers of adjacent pumps or the pumps in another amplifier in the system, when a pump light in a Raman amplifier fails as in Group II.

The inventions of Group III and Group IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention III has separate utility such as controlling Raman amplifier pump power to maintain a constant output power when there is a change in the transmission loss in the transmission line. The invention of Group IV utilizes the characteristics of a plurality of multiplexers, used to multiplex the plurality of pump lights to create a predetermined characteristic of the multiplexers. In Group IV there is no mention of changing the pump

powers of Raman pumps in Raman amplifiers when a change in the transmission loss of a transmission line changes, as required by Group III. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification. Additionally, because these inventions are distinct for the reasons given above and the search required for any one of the distinct groups is exclusive from the other groups, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew R Sommer whose telephone number is (703) 605-4274. The examiner can normally be reached on M - F 7:00 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3600

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

ars ATES
October 8, 2002

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3600